

DEPARTMENT OF ENERGY'S OFFICE OF DEFENSE PROGRAMS PREPARES FOR STRICT EPA REGULATIONS AND DEADLINES FOR OZONE-DEPLETING SUBSTANCES

Current international agreements and legislation ban chlorofluorocarbon (CFC) production after December 1995. This legislation significantly impacts the Department of Energy's use of CFCs in refrigeration/cooling systems, including the Defense Program (DP) facilities. DP is the Program Office responsible for DOE nuclear weapons programs. The Assistant Secretary for Defense Programs chartered the Office of Construction and Capital Projects (DP-32), the DP Project Management organization, with overall coordination responsibility for CFC refrigerant mitigation at DP sites and of serving as a clearing house for developments in regulations and refrigeration technology.

EXPANDING PARTNERSHIPS BENEFITS DP

DP has benefitted from cooperation and coordination with many elements in DOE, both at Headquarters (HQ) and the Field sites, Industry and other Agencies.

DOE ORGANIZATIONS Participation has been solicited from across the Department through workshops and teleconferences.

CFC PEER CONTACT DIRECTORY A comprehensive CFC Refrigeration Peer Contact Directory has been assembled as a means to strengthen teaming across the DOE complex.

IN-HOUSE ENERGY MANAGEMENT (IHEM) DP is working with IHEM and the Field sites in the evaluation of older chillers to determine the cost effectiveness of replacing them with new, high efficiency chillers operating with ozone friendly refrigerants. In this way, IHEM, the sites, and DP are coordinating their efforts to lower DOE's operating costs and achieve national energy conservation and environmental goals.

INDUSTRY Cooperative participation with industry has facilitated planning efforts. DP has initiated a partnership program with the chiller manufacturers to provide field placement of prototype chiller systems and equipment.

OTHER FEDERAL AGENCIES DP is working with other Federal agencies, such as the GSA, the Air Force, the Corps of Engineers, the Postal Service, and the EPA, which have implemented coordinated approaches to lessen dependence upon CFCs and as a result, expect freedom from CFC dependence within a few years.

CONSISTENT REGULATORY INTERPRETATION

To aid in the interpretation of regulations and to clarify issues of Field concern, the following guidance has been developed:

- **UNIFORM REGULATORY INTERPRETATION BY THE EPA OF 40 CFR 82 <DRAFT>**
 - Response to Field inquiries in a Question/Answer format.
- **MANAGEMENT OF OZONE-DEPLETING REFRIGERANTS AT SURPLUS FACILITIES**
 - A strategy for conserving refrigerants and preventative actions to protect against environmental releases.
- **DP POLICY ON ALTERNATIVE REFRIGERANTS**
 - Incorporates a waiver to restrictions in DOE 6430.1A, General Design Criteria.
- **EMERGENCY PLANNING & COMMUNITY RIGHT-TO-KNOW ACT: PERSONAL USE EXEMPTION**
 - Clarifies usage of the comfort cooling exemption.

- **CLARIFICATION OF EXECUTIVE ORDER 12856 AND 40 CFR 82**
- **REPORTING RESPONSIBILITY**
 - Defines the interrelationship between Executive Orders 12902, 12843, and 12856; EPCRA; and 40 CFR 82.
- **NEPA CATEGORICAL EXCLUSION (CX)**
 - Programmatic NEPA CX providing blanket coverage of retrofit/replacement actions expected to be undertaken.

HQ FACILITATION DP working in concert with the Field sites, while integrating its activities with those of FM, EH & IHEM has placed itself in a role of facilitation vs. oversight. The goal of DP is to add value to the activities of both Field sites and other HQ elements. To this end, DP has teamed with HQ and Field elements to "pilot" new approaches:

- **CFC DATA COLLECTION**
 - Database module developed by HQ and Field personnel.
 - Module utilized by Condition Assessment Information System inspectors to collect data on cooling systems that use CFC's at DP facilities (in less than two months).
 - Acquired data on over 300 chiller units and provided parameters for evaluating chillers on the basis of leakage, efficiency, and energy savings potential, etc.
- **GENERIC CONCEPTUAL DESIGN**
 - Developed to assist the sites in establishing site-specific implementation plans and funding requests.
- **CFC STOCKPILE TRACKING/CONSERVATION**
 - Initiated via the Facility Information Management System.
 - Promotes inter-facility refrigerant exchanges by the Field.
 - Pursuing reclamation of 50,000 lbs of CFC refrigerant from manufacturing waste.
- **GENERIC ENERGY AUDIT SURVEY FORM**
 - Assists the Field in the collection of facility data for IHEM energy savings modeling/analysis.
 - Accommodates data requirements of all computer models.
- **RESPONSIVE PROCUREMENT**
 - Pursuing a "GSA schedule type" procurement program for ozone friendly chillers.
 - Developing generic specifications with industry for both new chillers and conversion of existing chillers.
 - Promoting open competitive bidding utilizing lowest life-cycle cost considerations.

CONCLUSION DP has a long way to go to eliminate the use of CFCs in site refrigeration and cooling systems, but the teaming of HQ and Field site staffs will ensure an effective, efficient process and minimize the impacts upon the complex.

Contact: R. Snyder, DP-32, (301) 903-4047

● Los Alamos National Laboratory (LANL)	POC: Todd Siverling (505)667-2880
<ul style="list-style-type: none"> - <i>Refrigerants: R-11 and R-12.</i> - Converted 1 chiller from R-12 to R134a, reducing CFC inventory by 1,000 lbs. (Runs faster/quieter.) - Plan to formulate future recommendations regarding the use and elimination of CFCs. - In-House Energy Management (IHEM) cooling plant consolidation studies underway. - 35 large chillers; 32,288 pounds of CFCs in use. 	
● Sandia National Laboratory (SNL)*	POC: (NM) Carolyn Holloway (505)845-5248 POC: (CA) Richard Jackson-Gistelli (510)294-3458
<ul style="list-style-type: none"> - <i>Refrigerants: R-11, R-12, R-113, R-500, and R-502.</i> - 2 Chillers funded by IHEM thus far. - Several IHEM integrated building studies funded. - 15 large chillers; 44,951 pounds of CFCs in use. 	
● Oak Ridge Y-12 Plant (Y-12)	POC: Donald Sullivan (615)576-1827
<ul style="list-style-type: none"> - <i>Refrigerants: R-11, R-12, R-113, R-114, and R-503.</i> - FY96 Capital Line Item Project will eliminate CFC use for applications over a 10 pound charge by 1998. - 68% reduction in 1994 CFC emissions levels from 1992. 1995 goal is 85% below 1992 levels. - Installed high-efficiency purge units and Prevac pressurization units on all low-pressure chillers. - Site-wide IHEM integrated study initiated. - 48 large chillers; 72,813 pounds of CFCs in use. 	
● Kansas City Area Office (KC)	POC: Robert Nowak (816)997-3909
<ul style="list-style-type: none"> - <i>Refrigerants: R-11, R-12, and R-500.</i> - Recently upgraded and modernized cooling systems under the FCAP program. - Use of off-peak thermal storage is under evaluation in-house and by local utility. - Next site chiller replacements projected in FY 1997. - 22 large chillers; 65,930 pounds of CFCs in use. 	
● Lawrence Livermore National Lab. (LLNL)	POC: Dale Mauldin (510)423-8960
<ul style="list-style-type: none"> - <i>Refrigerants: R-11, R-12, R-113, R-500, and R-502.</i> - 10 Chillers funded by IHEM. - Proposed Capital Line Item Project would eliminate CFC use by 2000. - 49 large chillers; 23,839 pounds of CFCs in use. 	
● Pantex (PTX)	POC: Richard Groninger (806)477-5702
<ul style="list-style-type: none"> - <i>Refrigerants: R-11 and R-12.</i> - 6 large chillers; 3,260 pounds of CFCs in use. 	
● Nevada Test Site (NTS)	POC: Eric Hanson (702)295-0931
<ul style="list-style-type: none"> - <i>Refrigerants: R-11 and R-12.</i> - Suspension of testing has reduced largest site uses. - 4 large chillers; 2,165 pounds of CFCs in use. - Excessed 3 chillers, over 1,000 pounds of R-12 removed. - Replacing an R-12 chiller with an R-22 chiller. 	
● Savannah River Operations Office (SR)	POC: (HQ) Jeff McMillan (301)903-7701 POC: Ram Mallavaram (803)952-8160
<ul style="list-style-type: none"> - Site transitioned to EM; DP continuing assistance for interim period. - FY96 Capital Line Item Project will eliminate CFC use by 2002. - Procurement actions underway to address the site's most serious CFC problems. - Several IHEM integrated studies and load analyses underway. 	

* - Includes SNL/CA